



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/034,399 | 12/27/2001 | Jae Doeg Lim | SAMS01-00162 | 1210 |

7590 09/21/2005

Docket Clerk
P.O. Drawer 800889
Dallas, TX 75380

EXAMINER

EWART, JAMES D

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2683

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/034,399

Applicant(s)

LIM, JAE DOEG

Examiner

James D. Ewart

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment dated 08-19-2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21, 29 and 37 is/are rejected.
- 7) ☒ Claim(s) 22-28, 30-36 and 38-40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments filed 08-19-2005 have been fully considered but they are not persuasive.
2. Regarding Applicant's argument that Fong et al does not teach "associates each of received data packets with a corresponding one of said S sectors, and concurrently transmits at least some of said associated data packets in said corresponding sectors during a first subframe of a first forward channel data frame", Examiner agrees that the Fong reference doesn't specifically teach that the base station receives packets from a wireline connection. Fong et al teaches the base station is connected to the internet in column 2, Line 15. Fong et al further teaches providing a high-speed broadband packet service (Column 4, Lines 46). The Internet is inherently a packet based communication network, which sends and receives packets from a communication device regardless of whether connection is twisted pair, cable or wireless. Packet based networks are old in the art and it is inherent in a packet based communication network to associate a packet with a communication device. Each of the packets is associated with a communication device via an IP address. In a mobile communication system in which cells are sectorized, the mobile device is associated with a sector. Third generation cellular communication systems are well known to provide packet communication services and Examiner will provide a reference in which the base station receives packets and delivers them to a mobile station.
3. Regarding Applicant's arguments that Fong et al does not teach concurrently transmitting packets to different sectors. As Figure 5 illustrates, the base station coverage area is divided into

Application/Control Number: 10/034,399

Art Unit: 2683

S sectors labeled either "1" or "2": During subframe 1, the base station transmits data/packet (Column 6, Lines 10-11) to all three sectors labeled "1" and, during subframe 2, the base station transmits data/packets in all three of the sectors labeled "2". Thus, concurrently transmitting at least some of said associated data packets in different ones of S sectors during a first subframe of a first forward channel data frame. Applicant's amendment is only a rewording of the previous claims. If Applicant meant that the packets were to be sent concurrently to adjacent sectors, it is not indicated in the claims.

4. Regarding Applicant's argument that Fong does not teach that the data packets transmitted in one sector labeled "1" are different than data packets transmitted to another sector labeled "1", Examiner disagrees. Being that the base station is in communication with terminal stations and the focus of the reference is on a communication link, the packets are inherently different. In addition, multicasting and broadcasting are not mentioned, but uplink and downlink communication is discussed.

5. Regarding the objection to claim 29, Applicant's amendment has complied with Examiners request and thus the objection is withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made

Application/Control Number: 10/034,399

Art Unit: 2683

to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 21 and 29 are rejected under 35 USC 103(a) as being unpatentable over Fong et al. in view of Wu et al. (U.S. Patent Publication No. 2001/0036830) in view of Watanabe et al. (U.S. Patent No. 6,084,888) and further in view of Wong et al. (U.S. Patent No. 6,323,823).

Referring to claim 21, Fong et al teaches for use in a wireless network, a base station comprising directional antennas (Column 6, Line 1) capable of transmitting forward channel data into S sectors associated with said base station (Figure 5), wherein said base station associates a first one of data packets with a corresponding one of said S sectors (Figure 5), associates a second one of the data packets with a corresponding second one of the S sectors, said first and second sectors being different ones of the S sectors (Figure 5 and Column 6, Lines 10-11), and concurrently transmits said first and second data packets in said corresponding sectors during a first subframe of a first forward channel data frame (Column 6, Lines 51-65), but does not teach the base station receives packets from a wireline connection. Wu et al teaches the base station receives packets from a wireline connection (Figure 4 and 0054). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Fong et al with the teaching of Wu et al wherein the base station receives packets from a wireline connection to provide high data rate data transmissions (0008). Fong et al and Wu et al teach the limitations of claim 21, but do not teach combining a plurality of packets to make up a data frame. Watanabe teaches combining a plurality of packets to make up a data frame (Figure 5). Therefore at the time the invention was made, it would have been

Application/Control Number: 10/034,399

Art Unit: 2683

obvious to a person of ordinary skill in the art to combine the teaching of Fong et al with the teaching of Watanabe et al of combining a plurality of packets to make up a data frame when it is desired to transmit a packet through a communications channel (Column 1, Lines 36-38). Fong et al., Wu et al. and Watanabe et al. teach the limitations of claim 21, but do not teach using an antenna array. Wong et al teaches using an antenna array (Column 3, Lines 53-55). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Fong et al., Wu et al. and Watanabe et al. with the teaching of Wong et al of using an antenna array to present a reduced visual impact at the base station location (Column 4, Lines 24-25). The sectors labeled one transmit concurrently packet data during a first subframe of a first forward channel data frame and sectors labeled two transmit during the second subframe.

Referring to claim 29, Fong et al teaches a wireless network comprising a plurality of base stations capable of communicating with a plurality of mobile stations in a coverage area of said wireless network (Column 5, Lines 30-33), wherein a first one of said plurality of base stations comprises directional antennas (Column 6, Line 1) capable of transmitting forward channel data into S sectors associated with said first base station (Figure 5), and associates a first one of data packets with a first one of corresponding one of said S sectors (Figure 5), associates a second one of the data packets with a corresponding second one of the S sectors, said first and second sectors being different ones of the S sectors (Figure 5 and Column 6, Lines 10-11) and concurrently transmits said first and second data packets in said corresponding first and second sectors during a first subframe of a first forward channel data frame (Column 5, Lines 51-65). but does not teach the base station receives packets from a wireline connection. Wu et al teaches

Application/Control Number: 10/034,399

Art Unit: 2683

the base station receives packets from a wireline connection (Figure 4 and 0054). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Fong et al with the teaching of Wu et al wherein the base station receives packets from a wireline connection to provide high data rate data transmissions (0008). Fong et al and Wu et al teach the limitations of claim 21, but do not teach combining a plurality of packets to make up a data frame. Watanabe teaches combining a plurality of packets to make up a data frame (Figure 5). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Fong et al with the teaching of Watanabe et al of combining a plurality of packets to make up a data frame when it is desired to transmit a packet through a communications channel (Column 1, Lines 36-38). Fong et al., Wu et al. and Watanabe et al. teach the limitations of claim 21, but do not teach using an antenna array. Wong et al teaches using an antenna array (Column 3, Lines 53-55). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Fong et al., Wu et al. and Watanabe et al. with the teaching of Wong et al of using an antenna array to present a reduced visual impact at the base station location (Column 4, Lines 24-25). The sectors labeled one transmit concurrently packet data during a first subframe of a first forward channel data frame and sectors labeled two transmit during the second subframe.

7. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable by Fong et al. (U.S. Patent No. 6,069,885) in view of Wu et al. and further in view of Watanabe et al.

Referring to claim 37, Fong et al teaches for use in a base station of a wireless network, a method of transmitting forward channel data into S sectors associated with the base station (Figure 5) comprising the steps of: associating a first one of the data packets with a corresponding one of the S sectors (Column 6, Lines 62-63); associating a second one of the data packets with a corresponding second one of the S sectors, wherein the first and second sectors are different ones of the S sectors (Figure 5 and Column 6, Lines 10-11); and transmitting concurrently the first and second data packets in the corresponding first and second sectors during a first subframe of a first forward channel data frame (Column 6, Lines 51-65), but does not teach the base station receives packets from a wireline connection. Wu et al teaches the base station receives packets from a wireline connection (Figure 4 and 0054). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Fong et al with the teaching of Wu et al wherein the base station receives packets from a wireline connection to provide high data rate data transmissions (0008). Fong et al and Wu et al teach the limitations of claim 37 but do not teach combining a plurality of packets to make up a data frame. Watanabe teaches combining a plurality of packets to make up a data frame (Figure 5). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Fong et al with the teaching of Watanabe et al of combining a plurality of packets to make up a data frame when it is desired to transmit a packet through a communications channel (Column 1, Lines 36-38). The sectors labeled one transmit concurrently packet data during a first subframe of a first forward channel data frame and sectors labeled two transmit during the second subframe.

Application/Control Number: 10/034,399

Art Unit: 2683

Allowable Subject Matter

8. Claims 22-28, 30-36 and 38-40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Reason for allowable subject matter is provided below:

Referring to claims 22, 30 and 38, the references cited do not teach wherein said first data frame of said wireline connection has a duration T , said first forward channel data frame has a duration T , and said first subframe has a duration less than T .

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Alastalo et al. U.S. Patent Publication No. 2002/0097700 discloses apparatus and associated method, for utilizing antenna information determinative of antenna operation in a wireless mesh network.

Everson et al. U.S. Patent No. 6,842,446 discloses method and system for increasing data rate in wireless communications through aggregation of data sessions.

Eyuboglu et al. U.S. Patent Publication No. 2003/0026230 discloses broadcasting and multicasting in wireless communication.

Grob et al. U.S. Patent No. 6,894,994 discloses high data rate wireless packet data communication system.

Application/Control Number: 10/034,399

Art Unit: 2683

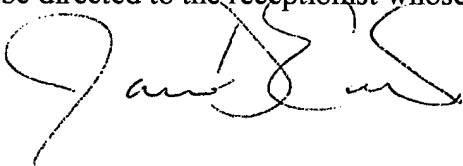
Oh U.S. Patent No. 6,915,128 discloses method and system for monitoring a wireless communications network.

Wegner U.S. Patent No. 6,728,554 discloses wireless communication network.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Ewart whose telephone number is (571) 272-7864. The examiner can normally be reached on M-F 7am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571)272-7872. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-2600.



Ewart
September 19, 2005



WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600